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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/002,537

11/15/2001

Paul E. Bender

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7590

11/24/2006

QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
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EXAMINER

AHMED, SALMAN

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,537

Applicant(s)

BENDER, PAUL E.

Examiner

Salman Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/15/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-20 are pending.

Claims 1-20 are rejected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6, 7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung (US PAT 6195705) in view of Warriar et al. (US PAT 6707809), hereinafter referred to as Warriar.

In regards to claims 1 and 14 Leung teaches a method/means for providing mobility within a network (figure 2a) comprising the steps of: transferring an anchor point (figure 2a, element 8, router/Home Agent HA1) comprising setting up another anchor point (figure 2a, element 21, router/Home Agent HA2) and transmitting an OSPF link state advertisement at predetermined intervals (column 13 lines 14-21 and lines 39-41, to negotiate with one another for the statuses of active and standby Mobility Agents, the Mobility Agents send hello messages. Hello messages notify other routers/Mobility Agents in the network that a particular router is operational in the system. The format of such hello message is generally similar to that of the hello messages used in protocols

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such as OSPF. Both active and standby Mobility Agents issue periodic hello messages to let the other routers/Mobility Agents on the network know their statuses).

Leung does not explicitly teach deleting anchor point each time a session between an access terminal and the network ends.

Warrier in the same field of endeavor teaches deleting (column 7 lines 6-18, the mobility binding record at the home agent is also deleted) anchor point each time a session between an access terminal and the network ends (column 7 lines 6-18, After the data session is over, the mobile node disconnects from the foreign agent and transitions to an idle state, indicated at 78. After a predetermined period of time, the life timers for the mobile node expire at the foreign agent, the home agent control node and the home agent. In the foreign agent, the visitor list entry for the mobile node is deleted, the PPP link is disconnected, and the IP tunnel to the home agent is destroyed, as indicated at 80. The mobility binding record at the home agent control node is marked idle, as indicated at 82. Finally, the mobility binding record at the home agent is also deleted and the IP tunnel information to the foreign agent is also deleted).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung's system/method by incorporating the steps of deleting anchor point each time a session between an access terminal and the network ends as taught by Warrier. The motivation is that such deletion enables the network to conserve resources/memory for further usage at future time; thus making the network more efficient in terms of resource allocation.

In regards to claims 6 and 15 Leung teaches deactivating resources associated with anchor point and initializing another anchor point (column 20, lines 59-67, if the active Mobility Agent decides on its own to relinquish its role as active Mobility Agent, it will also issue a resign message. Regardless, of the circumstances under which the resign message is issued, a router/Mobility Agent in the listen state receiving such message starts its active and standby timers and transitions to the speak state. A router in the speak state starts its active timer. Finally, a Mobility Agent in the standby state clears its active timer and transitions to the active state).

In regards to claims 7 and 16 Leung teaches changing intervals at which link advertisements are transmitted (column 15 lines 54-56, when an active Mobility Agent stops sending hello messages, the standby Mobility Agent will take over after the hold time expires).

3. Claims 2, 3, 8-13, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung in view of Warrior as applied to claims 1 and 14 above, and further in view of Moy (OSPF Version 2, Request for Comments: 1583, March 1994).

In regards to claim 3 Leung teaches a remote terminal apparatus (figure 2a, element 8, router/Home Agent HA1) for providing mobility within a network (figure 2a) comprising: a component (figure 3, master central processing unit (CPU) 362) adapted to transfer an anchor point (figure 2a, element 8, router/Home Agent HA1) that sets up another anchor point (figure 2a, element 21, router/Home Agent HA2) and transmits advertisements at predetermined intervals (column 13 lines 14-21 and lines 39-41, to

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negotiate with one another for the statuses of active and standby Mobility Agents, the Mobility Agents send hello messages. Hello messages notify other routers/Mobility Agents in the network that a particular router is operational in the system. The format of such hello message is generally similar to that of the hello messages used in protocols such as OSPF. Both active and standby Mobility Agents issue periodic hello messages to let the other routers/Mobility Agents on the network know their statuses); wherein advertisements indicate that packets having a destination IP address equal to that of the IP address of said remote terminal should be delivered to said remote terminal (column 11 lines 16-17; a home address specifying the IP address of the Mobile Node). In regards to claims 8, 9, 12, 13, 17 and 18 Leung teaches sending an ARP message informing entities that all packets with a destination address of said anchor point may be sent to an address of another anchor point (column 23 lines 1-10, if the active Home Agent receives a packet from a corresponding node or Foreign Agent and decides that the optimal route is through the standby Home Agent, the active Home Agent could, under normal circumstances, send redirect instructions (an ICMP redirect packet) to the corresponding node. This would tell the corresponding node to use the standby Home Agent, and the node would then issue an ARP request for the standby Home Agent's primary address. Thereafter the corresponding node would route packets through the standby Home Agent and would use the real standby Home Agent MAC address (as opposed to the group virtual MAC address)). In regards to claims 9, 10, 11, 13 and 18 Leung teaches deactivating resources associated with anchor point; initializing said another anchor point (column 20, lines 59-67, if the active Mobility Agent decides on its

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own to relinquish its role as active Mobility Agent, it will also issue a resign message. Regardless, of the circumstances under which the resign message is issued, a router/Mobility Agent in the listen state receiving such message starts its active and standby timers and transitions to the speak state. A router in the speak state starts its active timer. Finally, a Mobility Agent in the standby state clears its active timer and transitions to the active state); changing intervals at which link advertisements are transmitted (column 15 lines 54-56, when an active Mobility Agent stops sending hello messages, the standby Mobility Agent will take over after the hold time expires),

In regards to claim 3, Leung does not explicitly teach deleting anchor point each time a session between an access terminal and the network ends.

In regards to claim 3, Warrior in the same field of endeavor teaches deleting (column 7 lines 6-18, the mobility binding record at the home agent is also deleted) anchor point each time a session between an access terminal and the network ends (column 7 lines 6-18, After the data session is over, the mobile node disconnects from the foreign agent and transitions to an idle state, indicated at 78. After a predetermined period of time, the life timers for the mobile node expire at the foreign agent, the home agent control node and the home agent. In the foreign agent, the visitor list entry for the mobile node is deleted, the PPP link is disconnected, and the IP tunnel to the home agent is destroyed, as indicated at 80. The mobility binding record at the home agent control node is marked idle, as indicated at 82. Finally, the mobility binding record at the home agent is also deleted and the IP tunnel information to the foreign agent is also deleted).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung's system/method by incorporating the steps of deleting anchor point each time a session between an access terminal and the network ends as taught by Warriar. The motivation is that such deletion enables the network to conserve resources/memory for further usage at future time; thus making the network more efficient in terms of resource allocation.

In regards to claims 2 and 3 Leung and Warriar do not explicitly teach the age field values of advertisements are lower than a maximum age.

In regards to claims 2 and 3 Moy in the same field of endeavor teaches a link advertisement contains an age field ("LS age field" -- page 60 section 12.1.1 LS age) that is set to a value lower than the maximum age page 60 section 12.1.1 LS age: the age of a link state advertisement is never incremented past MaxAge).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung's apparatus by incorporating age related fields in advertisement packets as taught by Moy. The motivation is that Moy recommends it in the rfc 1583 for possible standartization. It is advantageous to adapt to known standards for implementation of communication protocol for following reason: Companies actively involved in adhering to standards more frequently reap short- and long-term cost-savings and competitive benefits than those that do not. Standardization can lead to lower transaction costs in the economy as a whole, as well as to savings for individual businesses. Standards have a positive effect on the buying power of companies. Standards can help businesses avoid dependence on a single supplier because the

availability of standards opens up the market. The result is a broader choice for businesses and increased competition among suppliers. Companies also have increased confidence in the quality and reliability of suppliers who use standards. In addition, standards are used by businesses to exert market pressure on companies further down the value chain, i.e., their clients. Thus, businesses can use standards to broaden their potential markets

In regards to claim 2 Leung and Warriar do not explicitly teach the advertisement contains a low cost associated with the routing of packets having a destination IP address of remote system.

In regards to claim 2 Moy in the same field of endeavor teaches the advertisement contains a low (Page 18 section 3.5 – the cost of the route is the minimum cost to any of the networks falling in the specified range) cost (Section 9 page 35, Interface output cost(s): The cost of sending a data packet on the interface, expressed in the link state metric) associated with the routing of packets having a destination IP address of remote system (Section 9 page 35, IP interface address: The IP address associated with the interface. This appears as the IP source address in all routing protocol packets originated over this interface).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung and Warriar's apparatus by incorporating age related fields in advertisement packets as taught by Moy. The motivation is that Moy recommends it in the rfc 1583 for possible standartization. It is advantageous to adapt to known standards for implementation of communication protocol for following reason:

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Companies actively involved in adhering to standards more frequently reap short- and long-term cost-savings and competitive benefits than those that do not. Standardization can lead to lower transaction costs in the economy as a whole, as well as to savings for individual businesses. Standards have a positive effect on the buying power of companies. Standards can help businesses avoid dependence on a single supplier because the availability of standards opens up the market. The result is a broader choice for businesses and increased competition among suppliers. Companies also have increased confidence in the quality and reliability of suppliers who use standards. In addition, standards are used by businesses to exert market pressure on companies further down the value chain, i.e., their clients. Thus, businesses can use standards to broaden their potential markets

In regards to claims 8, 9, 12, 13, 17 and 18 Leung and Warriar do not explicitly teach setting a first timer representing the maximum amount of time it should take for a low cost route to propagate throughout the network.

In regards to claims 8, 9, 12, 13, 17 and 18 Moy in the same field of endeavor teaches setting a first timer representing the maximum amount of time it should take for a low cost route to propagate throughout a network (page 71 section 12.4.2, paragraph four, a router that has formerly been the Designated Router for a network, but is no longer, should flush the network links advertisement that it had previously originated. This advertisement is no longer used in the routing table calculation. It is flushed by prematurely incrementing the advertisement's age to MaxAge).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung and Warriar's apparatus by incorporating age related fields in advertisement packets as taught by Moy. The motivation is that Moy recommends it in the rfc 1583 for possible standartization. It is advantageous to adapt to known standards for implementation of communication protocol for following reason: Companies actively involved in adhering to standards more frequently reap short- and long-term cost-savings and competitive benefits than those that do not. Standardization can lead to lower transaction costs in the economy as a whole, as well as to savings for individual businesses. Standards have a positive effect on the buying power of companies. Standards can help businesses avoid dependence on a single supplier because the availability of standards opens up the market. The result is a broader choice for businesses and increased competition among suppliers. Companies also have increased confidence in the quality and reliability of suppliers who use standards. In addition, standards are used by businesses to exert market pressure on companies further down the value chain, i.e., their clients. Thus, businesses can use standards to broaden their potential markets

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung in view of Warriar in view of Moy as applied to claim 3 above, and further in view of Saleh et al. (US PAT 6801496), hereinafter referred to as Saleh.

In regards to claim 4 Leung, Warriar and Moy, teach link state advertisement being send at regular interval as described in the rejections of claim 3 above.

Leung, Warrrier and Moy do not explicitly teach a user interface that allows the intervals at which link advertisements are transmitted to be changed.

Saleh in the same field of endeavor teaches (column 8 lines 26-27) the interval between Hello transmissions is a configurable parameter that can be different for each link.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung, Warrrier and Moy's apparatus by incorporating interval timing parameter to be configurable as taught by Saleh. The motivation is that (as suggested by Saleh, column 8 lines 27-30) nodes are expected to use the HelloInterval parameters specified in their neighbor's Hello message. Such parameters when made configurable, makes the network more robust.

In regards to claim 5, Leung (in view of Warrrier and Moy) teaches advertisements are OSPF link state advertisements (Leung: column 13 lines 14-21 and lines 39-41, to negotiate with one another for the statuses of active and standby Mobility Agents, the Mobility Agents send hello messages. Hello messages notify other routers/Mobility Agents in the network that a particular router is operational in the system. The format of such hello message is generally similar to that of the hello messages used in protocols such as OSPF).

5. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung and Warrier as applied to claim 1 above, and further in view of Dynarski et al. (US PAT 6272129, hereinafter Dynarski).

In regards to claims 19 and 20, Leung and Warriar teach wireless mobility as described in the rejections of claim 1 above.

Leung and Warriar do not explicitly teach deleting an instance of a dedicated controller in a modem pool controller (MPC) and deleting an instance of a dedicated transmitter in a modem pool transceiver (MPT).

Dynarski in the same field of endeavor teaches deleting an instance of a dedicated controller in a modem pool controller (MPC) (column 11-12, lines 65-20, Deleting MARC session, A DCD record is added to the list when a connection is setup with the CBSC and deleted when a session close timer expires or any other disconnect reason (normal or abnormal). Each record contains a collection of information on a per call basis, such as access information into frame relay task for communications with the MARC card) and deleting an instance of a dedicated transmitter in a modem pool transceiver (MPT) (column 15 lines 24-38, Deleting MCP session, The MARC card supports handovers by suspending existing system bus connections to MCP cards. A suspended system bus connection means that the connection to the MCP as well as the PPP context associated with it is left open. The connection is kept up until the MCP signals the MARC card to drop it. This can happen in four ways, excluding error conditions: 1) The MCP card session-close timer expires, 2) The mobile station application drops its PPP connection, 3) an intra-IWU hand-over (hand-over between MCP card) occurs; or 4) an inter-IWU hand-over occurs with the RADIUS server sending a resource-reclaim request to the MARC card). Dynarski further teaches the session-close timer in Internet and Intranet services is the maximum time a mobile can

remain in the dormant state. When the timer pops the MCP signals the MARC card resulting in the PPP session being terminated and the system bus connection being released. All resources associated with the connection are reclaimed. The call is released. The second case is PPP connection dropping. The entire call is removed from existence. The call is released (column 15, lines 42-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Leung and Warrrier's apparatus by incorporating steps of deleting an instance of a dedicated controller in a modem pool controller (MPC) and deleting an instance of a dedicated transmitter in a modem pool transceiver (MPT) as suggested by Dynarski. The motivation is that releasing resources related a call after call termination frees up those resources to be used in a new call; thus conserving system resources and implementing an efficient network.

Response to Arguments

6. Applicant's arguments see pages 7-8 of the Remarks section, filed 11/7/2006, with respect to the rejection of claims 1-18 under have been fully considered but they are not persuasive.

Applicant argues (see pages 7-8 paragraphs last-2) that Warrier was filed on February 1, 2000, after the priority date of the present application. Warrier was issued on an application that is a continuation-in-part of application serial number 09/354,659, now Xu et al., U.S. Patent Number 6,738,362 ("Xu"). Xu in turn issued on an application that is a continuation-in-part of application

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serial number 09/248,617, now Pierce, Jr., et al., U.S. Patent Number 6,560,217 ("Pierce"). Warrier's text cited in the Office Action is not found in either Xu or Pierce. Furthermore, we have perused both Xu and Pierce but have not identified in either one of these documents a disclosure of anchor point deletion as recited in claims 1, 3, and 14. It appears that neither Xu nor Pierce discloses anchor point deletion as recited in independent claims 1, 3, and 14 of the present application. However, Examiner respectfully disagrees with the assertion. Pierce reference teaches the home agent maintains current location information for the mobile node, through a variety of possible mechanisms, such as described in the patent application of Richard J. Dynarski, et al., "Dynamic Allocation of Wireless Mobile Nodes Over an Internet Protocol (IP) Network", Ser. No. 09/233,381, which is incorporated by reference. Then Dynarski reference which is fully incorporated by reference by Pierce teaches the Call Control Task 114 maintains a list of dynamic call database (DCD) records. A DCD record is added to the list when a connection is setup with the CBSC and deleted when a session close timer expires or any other disconnect reason (normal or abnormal). Each record contains a collection of information on a per call basis, such as access information into frame relay task for communications with the CBSC, and with the MARC card; session Ids; the Mobile IMSI/MIN, and ESN numbers for the mobile device; the CBSC Number; a CBSC identifier for the last active packet data session; service configuration identifiers for the last active packet data session; mobility information such as the termination status of the mobile, as defined in section 6.7.1.3.2.4 of TIA/EIA/IS-95-B; Slot Cycle Index--Preferred slot cycle index of the mobile, as defined in section 6.7.1.3.2.4 of TIA/EIA/IS-

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95-B; the Packet Zone ID--Packet zone identifier of the CBSC that last supported an active packet data session with the mobile, as defined in section 7.7.2.3.2.13 of TIA/EIA/IS-95-B. Additional information that can be contained in the dynamic call database include the session State--Information on the status of a packet data session (column 11-12, lines 65-20).

Newly added claims 19 and 20 are examined in their merits in this office action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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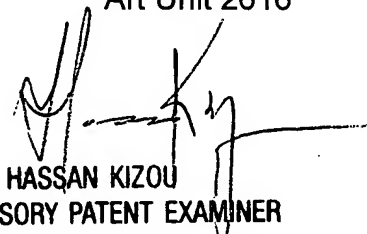
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA
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